

mandibles; *l.i.*, lower lip; *mx.* 1, one of the first maxillæ, and spines of the outer plate of the other more highly magnified; *m.xp.*, maxillipeds; *gn.* 1, first gnathopod; *gn.* 2, second gnathopod; *prp.* 1, 3, 4, 5, first, third, fourth, and fifth peræopods; *ur.* 1, 2, 3, first, second, and third uropods; *T.*, telson.

The mouth-organs and parts of the pleon are much more highly magnified than the antennæ and limbs.

PLATE XV. A.

Deutella Mayeri.

Lateral view of the female above, and of the male below, the natural size of the male being indicated by a line on the right.

os., the mouth-organs of the male specimen viewed laterally *in situ*. The palp of the mandible is seen overtopping the upper lip; the lower lip can be perceived almost edgewise below the molar tubercle of the mandible and above the palp of the first maxilla; between the latter and the prominent palp of the maxilliped are discerned the two plates of the second maxilla.

l.i., lower lip; *mx.* 1, first maxilla; *mx.* 2, second maxilla; *m.xp.*, maxillipeds; *gn.* 1, first gnathopod. This group is taken from a specimen smaller than either the male or female specimen figured on the plate.

a.s., upper antenna; *a.i.*, lower antenna; *gn.* 1, first gnathopod; *gn.* 2, second gnathopod; *prp.* 1, 2, 3, 5, first, second, third, and fifth peræopods.

The parts of the female are distinguished by the sign ♀, of the male by the sign ♂.

XLVII.—On a Group of the Aplysiidæ, with Description of a new Species. By J. GILCHRIST, Ph.D., &c.

[Plate XVIII.]

THE following description of a small group of Aplysias is a contribution to an account of the collection of Tectibranchs in the British Museum (Natural History). This collection contains a great number and variety of forms from the Pacific, Atlantic, and Indian Oceans, and illustrates very forcibly what could be done if a systematic search for these animals were made in almost any unexplored region. Owing to careful preservation and a liberal supply of spirit some of the specimens are in a good state of preservation and sufficient for purposes of identification.

The small group to be considered here is represented by half a dozen specimens, more especially by *Aplysia piperata* (Smith), from Thursday Island, Torres Straits ('Alert'

collection), and by a specimen in a good state of preservation from Siam (M. Mouhot's collection).

This latter (Pl. XVIII. figs. 1 and 3) appears to be a new species, which I am enabled to describe by permission of Dr. Günther, Keeper of the Zoological Department, and which may be designated *Aplysia Mouhoti*. It closely resembles *A. piperata* (figs. 2 and 4) in the general structure of the body and in colouring. It is, however, well differentiated from it: (1) by the absence of the prolongation of the mantle into a long excretory siphon posteriorly (figs. 3 and 4, *siph.*). (2) The pleuropodia also are somewhat less developed, lie closer to the body, and evidently do not function as swimming-organs—compare the plicated edge of the pleuropodia of fig. 2, *pl.*, with that of fig. 1, *pl.* Figs. 3 and 4, *pl'*, indicate the line of attachment of the pleuropodia to the body. The difference between the pleuropodia in the two species is most marked at their anterior end. (3) The colouring differs somewhat: in *A. piperata* there is a uniform sprinkling of black dots all over the animal except on the sole of the foot and under the mantle, showing an inclination, especially on the head and mantle, to run into small radiating lines. (The lighter posterior end and dark encircling band described by Mr. Smith are perhaps due to accidental causes, as another and better preserved specimen in the collection shows no traces of these.) In *A. Mouhoti* this speckling of dark spots is absent, and there is a tendency rather to reticulate marking on pleuropodia and linear marking on head and mantle.

The two animals, on the other hand, possess several striking features in common. This is most marked in the general external topography of the body, a point which I have elsewhere tried to show is of special significance in the classification of the Tectibranchs:—(1) The pleuropodia in both cases start from about the posterior end of the first third of the body and run backwards to within a few millimetres of the end of the foot, being quite separate throughout their entire length. (2) In both the mantle, shell, and visceral mass are much more posterior than in, e. g., *A. limacina*; and, in coordination with this, the genital opening is peculiar in being located somewhat anteriorly to the mantle-cavity (figs. 3 and 4, *g.o.*). In the Tectibranchs it is, as a rule, within the pallial cavity. (3) The most striking point of agreement, however, is found in the position of the rhinophora. These are situated close together, just between the anterior ends of the pleuropodia. This is such a marked feature, and is so different from what is found in other Aplysiidæ, that it would seem to justify the establishment of a separate genus.

Other specimens in the collection present the same features. A second species in M. Mouhot's collection, also from Siam, seems identical with *A. Mouhoti*, but is not sufficiently well preserved. The same is to be said of a specimen from Australia, collected by J. B. Jukes, Esq. A larger specimen (foot 10×5 centim.) presents the same specific features, but is devoid of colour (bleached?).

The question of the systematic position of this group is of interest, as it seems to form a connecting-link between the Cephalaspidea and Anaspidea in the following particulars:—(1) Rhinophora (cf. *Acera*) in close proximity to anterior end of pleuropodia, in contrast to the position in, e. g., *A. limacina*. (2) Visceral mass posterior (with shell and mantle) and not yet entirely fused with foot (*vide* fig. 5). These characteristics mark it off sharply from the genus *Syphonota*, which Adams has proposed (on very insufficient grounds). If this genus is to be retained, these points must be taken into consideration.

Besides these forms there are in the collection other unexamined and probably new forms of the Aplysiidæ. There are, moreover, many representatives of the genera *Dolabrifera*, &c., forming good material for further work, though unfortunately with "spirit"-specimens.

EXPLANATION OF PLATE XVIII.

Fig. 1. *Aplysia Mouhoti*. Nat. size.

Fig. 2. *A. piperata*. Nat. size.

Figs. 3, 4. *Aplysia Mouhoti* and *A. piperata*. *gf.*, genital furrow; *rhin.*, rhinophora; *pl.*, free edge of pleuropodia; *pl'*, point of attachment of pleuropodia; *g.o.*, genital opening; *ct*, point of attachment of gill; *an.*, anus; *siph.*, siphon.

Fig. 5. Longitudinal section of *Aplysia Mouhoti*. *sh.*, shell; *siph.*, siphon; *v.m.*, visceral mass.

XLVIII.—Descriptions of new Coleoptera from New Zealand. By Captain THOS. BROWN.

[Concluded from p. 245.]

Group Otiorhynchidæ.

Catoptes spermophilus, sp. n.

Robust, broad, moderately convex; piceous; tarsi flavo-castaneous, antennæ obscure rufous; densely covered with small, round, flat, fusco-testaceous scales; the setæ are erect